

## Questioning the Author: Effects on the Reading Comprehension of EFL Junior High School Students in Taiwan<sup>1</sup>

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### Abstract

This study investigates the effects of a teaching strategy, Questioning the Author (QtA), on the reading comprehension of junior high school students in Taiwan. Sixty-two ninth graders assigned to an experimental group and a control group participated in this experiment in two periods per week for consecutively five weeks. Written Recall and Short-answer Comprehension Tests, were used in the pretest and posttest to assess three dimensions of comprehension – recall, inference generation in recall and response to Comprehension Test. Written recall data were analyzed to assess the effect of QtA lessons on the memory for text and on three levels of inference generation: text-based, reader-based and incorrect inferences; responses to short-answer Comprehension Tests were analyzed and compared based on students' answers to factual, interpretive or responsive questions.

ANCOVA analyses on the three dimensions of the measures show that: (1) there is no significant difference between groups in written recall, (2) the Experimental Group produced significantly more reader-based inference than Control Group and (3) Experimental Group performed significantly better than Control Group with interpretive questions. The results show that QtA training could boost higher level reading – inference generation and text interpretation – for junior high school readers.

**Key words:** QtA lessons, recall, inference

### Introduction

This study investigates the effects of a teaching strategy, Questioning the Author (QtA), on the reading comprehension of junior high school students in Taiwan. Questioning the Author (from here on, QtA) (Beck & McKeown 2001, 2002; Beck, McKeown, Hamilton, & Kucan, 1997; Beck, McKeown, Sandora, Kucan, & Worthy, 1996; McKeown & Beck,

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2004; McKeown, Beck, Hamilton, & Kucan, 1999; McKeown, Beck, & Worthy, 1993; Sandora, Beck, & McKeown, 1999) as a teaching strategy was proposed (Beck et al., 1997) by researchers to fill up the gap between teaching and learning, since in the traditional classroom students scarcely initiate the talk and are often asked questions to retrieve the facts. It characterized by requiring teachers to segment the text, plan queries, and use discussion moves in classes. Rather than presenting the ideas to students directly, teachers help students “grapple with the ideas” (Beck et al., 1997, p. 6) in each segment through discussion and design queries to invite students’ interpretation (Beck et al., 1997).

This study is therefore conducted to investigate the effect of QtA on the reading comprehension of junior high school students in Taiwan, in terms of memory for text, inference generation and three types of comprehension (factual, interpretive and responsive). The research questions are:

- (1) Do QtA lessons make a difference in students’ memory of texts as indicated by recall?
- (2) Do QtA lessons make a difference in students’ inference generation in terms of text-based inference, reader-based inference, and incorrect inference?
- (3) Do QtA lessons make a difference in students’ response to three levels of comprehension questions?

## **Method**

### **Participants**

Two classes of ninth graders in a junior high school in Taipei City, one with 31 students assigned as a control group and another 31 students as an experimental group, participated in the experiment. The first author was the English teacher of both groups.

### **Treatment Materials Selection/Development**

First, five fables were chosen as treatment as well as test material for the sake of comparison because previous studies used it as treatment materials (Beck et al., 1997). Then, five stories from the lowest level of *Aesop’s Fables of Easy Readers Series* by Caves Books (Olivier, 1999) were selected in terms of the suitability of topic, length, and readability for discussion in two-class periods with the target students.

Second, the text supplement, Initiating Queries - ten questions for each story focusing on theme, character, or judgment of the story, were developed at the junctures between text segments, where key concepts or ideas deserve further discussion.

Third, to motivate students’ engagement in the stories, ten Comprehension Check questions, including nine multiple-choice questions, three factual, three interpretive and three reactive, plus one open-ended question for each treatment passage are designed. These data were not analyzed in this study.

### **Data Collection Material and Instruments**

For data collection, two Indian fables, two recall sheets and two comprehension test sheets were prepared for pretest and posttest.

Two Indian fables, similar to the topics in the treatment stories and with the length and readability modified for comparability, were selected from the website after a pilot with 31 ninth graders, all of whom rated the contents as unfamiliar. They were further confirmed by three experienced teacher as suitable for ninth graders to read. A sample test passage is given in Appendix A.

The Comprehension Tests for pretest and posttest include nine questions, three for each of the three types of comprehension, literal, interpretive and evaluative/responsive (Gray, 1960). Altogether, there are nine questions for each of the passage. Appendix B presents a sample set of Comprehension Test.

### **Treatment Procedure**

The experiment was done in two of the five weekday periods for the English course, for five consecutive weeks, with one story for two periods each week.

For experimental Group, in a typical QtA lesson, the teacher first explained the ten queries. Then she read aloud each segment, stopped to ask the query for the segment and led a whole-class discussion based on the query, for about six minutes. Meanwhile, impromptu questions, Follow-up questions or Narrative questions, were asked to explore further students' reflections. The process continued in a cycle until the sixth segment for the first day. On the second day, after the rest four cycles were completed, Comprehension Check test were then administered.

For Control Group, the same stories were covered and the same Comprehension Check tests were given. However, the teaching focused on explanation of words, sentence pattern, grammar points and content.

### **Data Collection**

A split-block design were employed for pretest and posttest to control for the order effect on the two test passages, "The Foolish Friend" and "The Prince and the Lion." Students first read a story for ten minutes before writing a recall in Chinese for fifteen minutes. After the recall sheets were collected, students were given a Comprehension Test for twenty minutes, with the stories provided.

### **Scoring**

To score recall, two native speakers of English developed the scoring templates based on Bernhardt's (1991) "pausal unit" system. Then the first researcher and one English teacher scored all the recall independently based on the templates. The inter-rater reliability was .98.

To score for the inferences made by the students, again the first researcher counted the mismatching units of the recall and classified them into three types of inference: text-based inferences, reader-based inferences and incorrect inferences. Text-based inferences relate a lot to the text (Barry & Lazarte, 1998). A second rater scored one fifth of the copies. The inter-rater reliabilities for text-based, reader-based and incorrect inferences were .92, .85 and .96, respectively.

To score Comprehension Check test, the first researcher and a second rater, assigned a score holistically from 0 to 4 for each of question response, yielding a total score of 36 for each test. The inter-rater reliabilities for factual, interpretive and responsive questions were .97, .91 and .91, respectively.

## Findings

### Effect of QtA Lessons on recall

Table 1 shows that although both groups gained substantially in the post, Group E (M = 27.16, SD = 25.52) did not outperform Group C (M = 29.82, SD = 25.31). ANCOVA analyses, with pretest scores covariated, showed that there is no significant difference between groups in the posttest,  $F(1, 59) = .00, p > .05$ . Thus, QtA lessons did not successfully enhance students' ability to remember the text.

Table 1. Mean Score for Group and Pre-Posttest on Written Recall

Group	Pretest	Posttest
Group E (n=31)	M = 18.92 (SD = 23.99)	M = 27.16 (SD = 25.52)
Group C (n=31)	M = 21.80 (SD = 23)	M = 29.81 (SD = 25.31)

### Effects of QtA Lessons on Inference Generation

*Effect on Text-based Inference.* For text-based inference, Group E generated an average 3.84 units (SD = 3.05) whereas that of Group C was 3.97 (SD = 2.74) in the posttest (See Table 2). Again, ANCOVA analysis, with pretest scores covariated, indicated that there is no significant difference between groups,  $F(1, 59) = .08, p > .05$ . After a five-week training, QtA lessons failed to aid the generation of text-based inferences

Table 2. Mean Scores for Group and Pre-Posttest on Text-based Inference

Group	Pretest	Posttest
Group E (n=31)	M = 2.39 (SD = 2.85)	M = 3.84 (SD = 3.05)
Group C (n=31)	M = 2.26 (SD = 2.25)	M = 3.97 (SD = 2.74)

**Effect on Reader-based inference.** For reader-based inference, after treatment, Group E had .23 units (SD = .5) while Group C declined to zero units (SD = .18) (See Table 3).

Table 3. Mean Scores for Group and Pre-Posttest on Reader-based Inference

Group	Pretest	Posttest
Group E (n=31)	M = 0.00 (SD = .18)	M = .23 (SD = .50)
Group C (n=31)	M = .13 (SD = .34)	M = 0.00 (SD = .18)

Since the mean frequency is very low, ANCOVA analysis was not a suitable tool for further analysis. Therefore, we first made sure that the assumption of homogeneity was met by performing  $\Phi$  test ( $\Phi = -.10$ ) for valid comparison between groups on posttest. Then, a Mann-Whitney Test was employed on reader-based inferences. Table 4 shows that there is a significant difference between groups (Wilcoxon W test= 898.50,  $p < .05$ ). QtA lessons were able to assist participants to effectuate more reader-based inferences.

Table 4. Summary of Reader-based Inferences

	Reader-based inference
Mann-Whitney U	402.50
Wilcoxon W	898.50
Z	-2.00
Asymp. Sig. (2-tailed)	.045 *

\*  $p < .05$ .

**Effect on Incorrect Inference.** In the posttest, the mean frequency of Group E was 2.29 (SD = 2.76) whereas Group C produced a mean of 2.52 (SD = 3.42) inferences (see Table 5). ANCOVA analysis, with pretest scores covariates, showed that no significant difference is traced,  $F(1, 59) = .31, p > .05$ . The treatment makes no difference in making incorrect inference.

Table 5. Mean Scores for Group and Pre-Posttest on Incorrect Inference

Group	Pretest	Posttest
Group E (n=31)	M = 2.16 (SD = 2.22)	M = 2.29 (SD = 2.76)
Group C (n=31)	M = 3.39 (SD = 5.54)	M = 2.52 (SD = 3.42)

### Effects of QtA Lessons on Comprehension Tests

**Effect on Factual Questions.** Table 6 shows that the posttest mean for Group E and Group C are 7.32 (SD = 3.24) and 7.38 (SD = 3.69), respectively. Again, ANCOVA analysis

with pretest scores as a covariate shows there is no significance between the groups,  $F(1, 59) = .01, p > .05$ . Group E did not outperform Group C in answering factual questions.

Table 6. Mean Scores for Group and Pre-Posttest on Factual Questions

Group	Pretest	Posttest
Group E (n=31)	M = 6.65 (SD = 3.43)	M = 7.32 (SD = 3.24)
Group C (n=31)	M = 6.52 (SD = 3.83)	M = 7.38 (SD = 3.69)

**Effect on Interpretive Questions.** In the posttest, the mean scores were 5.74 (SD = 2.56) and 5.48 (SD = 3.12) for Group E and Group C respectively. (See Table 7). ANCOVA analysis on posttest scores, covariating pretest scores, shows that there is a significant difference between groups,  $F(1, 59) = 4.94, p < .05$ . Group E outperformed Group C in answering interpretive questions. QtA lessons successfully ushered participants to construct their own meaning and interpret the text.

Table 7. Mean Scores for Group and Pre-Posttest on Interpretive Questions

Group	Pretest	Posttest
Group E (n=31)	M = 4.19 (SD = 3.08)	M = 5.74 (SD = 2.56)
Group C (n=31)	M = 5.58 (SD = 3.64)	M = 5.48 (SD = 3.12)

**Effect on Responsive Questions.** In the posttest, the mean scores of Group E and Group C were 6.90 (SD = 2.02) and 6.65 (SD = 2.24) respectively. ANCOVA analysis, with pretest scores covariating, indicates that there is no significant difference between groups,  $F(1, 59) = 1.48, p > .05$ . After the intervention, Group E did not show greater change.

Table 9. Mean Scores for Group and Pre-Posttest on Responsive Questions

Group	Pretest	Posttest
Group E (n=31)	M = 5.45 (SD = 2.86)	M = 6.9 (SD = 2.02)
Group C (n=31)	M = 6.16 (SD = 2.46)	M = 6.65 (SD = 2.24)

### Conclusion

This study shows that QtA lessons did not successfully enhance students' ability to remember the text. As far as inference generation was concerned, QtA lessons enhanced the ability to develop more reader-based inferences. However, the lessons did not show effect on text-based inferences, nor on incorrect inferences. As for response to Comprehension Test, QtA lessons contributed to greater improvement on students' answer to interpretive questions. However, no improvement was found for answer to literal questions and responsive

questions.

It is therefore concluded that pushing students to attend to higher level text understanding through teacher questions anchoring reader, text and author, such as those asked in QtA sessions, might result in higher level text processing. Readers will be engaged in more effortful reasoning to connect knowledge/experience with text, yielding more text interpretation and reader-based inferences. Hence, with this piece of work, we would like to suggest that reading teachers prepare questions at all levels and work out the meaning of the text with students through discussion moves. Moreover, when participating in the discussion, students need to take the initiative in presenting what is in mind. Thus, students will take more responsibility in the reading process while teachers play the role of facilitators that guide students toward the right path.

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## Appendices

### Appendix A. Sample Pretest-Posttest Reading Material

#### "The Foolish Friend"

Once upon a time there was a king. He fought, won his battles and beat all his enemies. Once, when the war was over the king went back to his camp; he needed a rest. In the camp there was a gentle ape. It had been taught to carry a sword and it looked so funny that it made the king laugh. The ape did what he was told. The king kept the ape as a good friend and a good body guard. The king told the ape, "Nobody should bother my sleep, take care of it," and the king fell asleep. The ape took the sword and sat down beside the king's bed.

After some time, a bee came in making sounds and stayed on the king's head. It was making sounds in the king's ear. The ape found that sleep of the king was being bothered. The ape threw the bee away through a window but it came back. Again and again the ape threw the bee away but each time it stayed again on the king's head. At last, the angry ape took the king's sword and hit at the bee. Oh, the hit that was meant for the bee killed the king! Then the ape cried sadly because it loved the king. So the king who had come safely through many wars was killed at last because he made a friend of an ape.

### Appendix B. A Sample Comprehension Test (English Version)

#### "The Foolish Friends"

##### *Factual:*

1. What did the king do before he slept?
2. Where did the bee stay after it made sounds?
3. Why was the ape not happy with the bee?

##### *Interpretive:*

1. What do you learn from the sentence "So the king who had come safely through many wars was killed at last because he made a friend of an ape?" and why?
2. The king said, "Nobody should bother my sleep, take care of it?" Do you think he is a lazy king? Why or why not?
3. Finally, the king who won many wars died because of a bee. Is this a good ending? Was the ape a true friend? Why or why not?

##### *Responsive:*

1. If you were the king in the story, would you need a body guard? Why or why not?

2. Do you think the king will feel bad if he knows he is killed by a friend? Why or why not?
3. If you were the ape, what would you do to make the king sleep well? Why?